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21171	7590	01/21/2005	EXAMINER PICH, PONNOREAY	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			ART UNIT 2135	PAPER NUMBER

DATE MAILED: 01/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/878,336

Applicant(s)

SEKI ET AL.

Examiner

Ponnoreay Pich

Art Unit

2135

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☒ Claim(s) 1,2,4-10,13,17,21,25,29 and 33 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/12/2001</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-36 have been examined and are pending.

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 2000-365809, filed on 11/30/2000.

Information Disclosure Statement

The IDS submitted by the applicant has been considered by the examiner.

Specification

The abstract of the disclosure is objected to because:

1. The applicant should consider the use of the indefinite article "a" before certain generic nouns in the abstract; for example, "a connecting unit" instead of just "connecting unit" and "a security unit" instead of just "security unit".
2. The comma after "status" in line 14 is not needed.
3. There should be a comma after "terminal" in line 19.

Correction is required. See MPEP § 608.01(b).

The disclosure is objected to because of the following informalities: there are several grammar errors, punctuation errors (which given how lengthy some of the applicant's sentences are, made comprehension of the disclosure difficult), and errors that the examiner assumes stem from poor translation of the original Japanese patent disclosure. For example, there are instances as in page 10, line 24, where the phrase "own to" is used, which makes no sense within the context of the sentence in which it is

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used. On page 13, line 20, the applicant uses the word "leads", but the examiner is not certain if perhaps the applicant meant to state "LED's" instead. These are just two examples of many errors that the applicant needs to correct in the specification. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claims 1-2, 4-10, 13, 17, 21, 25, 29, and 33 are objected to because of the following informalities: there are several grammar errors, punctuation errors, and errors that the examiner assumes stem from poor translation of the original Japanese patent. Of particular notice is the use of the phrase "own to" in several claims, which renders the sentence in which they appear very difficult for the examiner to comprehend. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4, 7-10, 13-14, 17-18, 21-22, 25-26, 29-30, and 33-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1. Claim 1 recites the following limitations:

- a. "the private computer" in line 3.
- b. "the terminal" in line 4.

- c. "the data" in line 14.

There are insufficient antecedent basis for these limitations in the claim.

- 2. Claim 2 recites the limitation "the data" in lines 5, 11, and 16. There is insufficient antecedent basis for these limitations in the claim.

- 3. Claim 3 recites the following limitations:

- a. "the received data" in lines 3-4.
- b. "the output data" in lines 5-6 and lines 9-10.

There are insufficient antecedent basis for these limitations in the claim.

- 4. Claim 4 recites the following limitations:

- a. "the connection switching request" in lines 15-16.
- b. "the time" in line 18.
- c. "the above" in the last line of the claim.

There are insufficient antecedent basis for these limitations in the claim.

The term "the above" in claim 4 is a relative term which renders the claim indefinite. The term "the above" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably appraised of the scope of the invention. The examiner will in the course of examining this application assume the applicant meant for "the above" to refer to when the detecting unit has detected whether or not a key code of a predetermined key transmitted from any terminal has been received by a predetermined number during a predetermined period of time.

5. Claim 7 recites the following limitations:

- a. "the private computer" in line 3.
- b. "the terminal" in line 4.
- c. "the data" in line 14.

There are insufficient antecedent basis for these limitations in the claim.

6. Claim 8 recites the limitation "the data" in lines 6, 11, and 17. There is insufficient antecedent basis for these limitations in the claim.

7. Claim 9 recites the following limitations:

- a. "the received data" in lines 3.
- b. "the output data" in lines 6-7 and lines 10-11.

There are insufficient antecedent basis for these limitations in the claim.

8. Claim 10 recites the following limitations:

- a. "the connection switching request" in lines 16-17.
- b. "the time" in line 19.
- c. "the above detection" in line 19-20.

There are insufficient antecedent basis for these limitations in the claim.

The term "the above detection" in claim 10 is a relative term which renders the claim indefinite. The term "the above detection" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably appraised of the scope of the invention. The examiner will in the course of examining this application assume the applicant meant for "the above detection" to refer to when

the detecting unit has detected whether or not a key code of a predetermined key transmitted from any terminal has been received by a predetermined number during a predetermined period of time.

9. Claim 13 recites the following limitations:

- a. "the private computer" in lines 3-4.
- b. "the shared computer" in line 9.
- c. "the data" in line 19.

There are insufficient antecedent basis for these limitations in the claim.

10. Claim 14 recites the limitation "the at least one computer" in line 2. There is insufficient antecedent basis for this limitation in the claim.

11. Claim 17 recites the following limitations:

- a. "the private computer" in lines 3-4.
- b. "the shared computer" in line 9.
- c. "the data" in lines 19, 30, and 35.

There are insufficient antecedent basis for these limitations in the claim.

12. Claim 18 recites the limitation "the at least one computer" in line 2. There is insufficient antecedent basis for this limitation in the claim.

13. Claim 21 recites the following limitations:

- a. "the private computer" in lines 3-4.
- b. "the shared computer" in line 9.
- c. "the data" in lines 19, 24, 33, and 42.
- d. "the received data" in line 27.

- e. "the output data" in line 36 and line 45.

There are insufficient antecedent basis for these limitations in the claim.

14. Claim 22 recites the limitation "the at least one computer" in line 2. There is insufficient antecedent basis for this limitation in the claim.

15. Claim 25 recites the following limitations:

- a. "the private computer" in lines 7-8.
- b. "the shared computer" in line 9.
- c. "the time" in line 32.
- d. "the above" in line 33
- e. "the data" in line 35.

There are insufficient antecedent basis for these limitations in the claim.

The term "the above" in claim 4 is a relative term which renders the claim indefinite. The term "the above" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably appraised of the scope of the invention. The examiner will in the course of examining this application assume the applicant meant for "the above" to refer to when the detecting unit has detected whether or not a key code of a predetermined key transmitted from any terminal has been received by a predetermined number during a predetermined period of time.

16. Claim 26 recites the limitation "the at least one computer" in line 2. There is insufficient antecedent basis for this limitation in the claim.

17. Claim 29 recites the following limitations:

- a. "the private computer" in lines 3-4.
- b. "the shared computer" in line 9.
- c. "the data" in line 19.

There are insufficient antecedent basis for these limitations in the claim.

18. Claim 30 recites the limitation "the at least one computer" in line 2. There is insufficient antecedent basis for this limitation in the claim.

19. Claim 33 recites the following limitations:

- a. "the private computer" in lines 3-4.
- b. "the shared computer" in line 9.
- c. "the data" in line 19.

There are insufficient antecedent basis for these limitations in the claim.

20. Claim 34 recites the limitation "the at least one computer" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 7, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Beasley et al (U.S. 5,721,842).

1. Claim 1: Beasley et al disclose a switching device for controlling a connection between at least one private computer, at least one terminal corresponding to a private computer, and a shared computer that can be operated by a terminal; the switching device comprising:
 - a. A connecting unit that connects each terminal to a corresponding private computer in a default status and switches a connection destination of the terminal to a private computer corresponding to said terminal or to the shared computer when a connection switching request transmitted from said terminal has been received (col 2, lines 56-64).
 - b. A security unit that executes for each terminal an identification process on data that has been received from any one terminal and outputs to the private computer or the shared computer (col 1, lines 45-61).

The examiner has interpreted the claim as broadly as reasonable and determined that determining which computer data should go to from a workstation as a type of identification process on the data. The examiner has interpreted the workstation disclosed by Beasley et al to be the same thing as the terminal disclosed by the applicant as they both consist of basically a keyboard, mouse, and monitor. The examiner has also interpreted the phrases "private computer" and "shared computer" to be regular computers that users choose and agree to limit the use of in certain manners. A "shared

computer” is one all the users agree will be accessed by any of the workstations. “Private computers” can be regular computers that the users agree will only be connected to from a certain workstation or terminal. That is not to say, however, that other workstations cannot connect to that computer also and there may be nothing to prevent such a connection from being made.

2. Claim 7: Beasley et al disclose a switching method in a switching device for controlling a connection between at least one private computer, at least one terminal corresponding to a private computer, and a shared computer that can be operated by a terminal; the switching method comprising:
 - a. A connection step at which each terminal is connected to a corresponding private computer in a default status (col 2, lines 56-64).
 - b. When a connection switching request transmitted from said terminal has been received, a connection destination which corresponds to:
 - i. The private computer corresponding to said terminal (col 2, lines 56-64).
 - ii. The shared computer (col 2, lines 56-64).
 - iii. A security step at which an identification process for each terminal is executed on data that has been received from any one terminal and outputs to the private computer or the shared computer (col 1, lines 45-61).

3. Claim 13: Beasley et al disclose a computer system comprising at least one private computer; a terminal corresponding to a private computer; at least one shared computer connected to a network; and a switching device disposed between the private computer and the terminal for relaying data between the terminal and a shared computer, the switching device comprising:
 - a. A connecting unit that connects each terminal to a corresponding private computer in a default status and switches a connection destination of the terminal to a private computer corresponding to said terminal or the shared computer when a connection switching request transmitted from said terminal has been received (col 2, lines 56-64).
 - b. A security unit that executes for each terminal an identification process on data that has been received from any on terminal and outputs to the private computer or the shared computer (col 1, lines 45-61).

Claims 1, 7, and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Wilder et al (U.S. 6,557,170).

1. Claims 1: Wilder et al disclose a switching device for controlling a connection between at least one private computer, at least one terminal corresponding to a private computer, and a shared computer that can be operated by a terminal; the switching device comprising:
 - a. A connecting unit that connects each terminal to a corresponding private computer in a default status and switches a connection destination of the terminal to a private computer corresponding to said terminal or to the

shared computer when a connection switching request transmitted from said terminal has been received (col 1, lines 21-45 and col 7, lines 33-47).

- b. A security unit that executes for each terminal an identification process on data that has been received from any one terminal and outputs to the private computer or the shared computer (col 1, lines 42-50).

2. Claim 7: Wilder et al disclose a switching method in a switching device for controlling a connection between at least one private computer, at least one terminal corresponding to a private computer, and a shared computer that can be operated by a terminal; the switching method comprising:

- a. A connection step at which each terminal is connected to a corresponding private computer in a default status (col 1, lines 21-45 and col 7, lines 33-47).
- b. When a connection switching request transmitted from said terminal has been received, a connection destination which corresponds to:
 - i. The private computer corresponding to said terminal (col 1, lines 21-45 and col 7, lines 33-47).
 - ii. The shared computer (col 1, lines 21-45 and col 7, lines 33-47).
 - iii. A security step at which an identification process for each terminal is executed on data that has been received from any one terminal and outputs to the private computer or the shared computer (col 1, lines 42-50).

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3. Claim 13: Wilder et al disclose a computer system comprising at least one private computer; a terminal corresponding to a private computer; at least one shared computer connected to a network; and a switching device disposed between the private computer and the terminal for relaying data between the terminal and a shared computer, the switching device comprising:
 - a. A connecting unit that connects each terminal to a corresponding private computer in a default status and switches a connection destination of the terminal to a private computer corresponding to said terminal or the shared computer when a connection switching request transmitted from said terminal has been received (col 1, lines 21-45 and col 7, lines 33-47).
 - b. A security unit that executes for each terminal an identification process on data that has been received from any on terminal and outputs to the private computer or the shared computer (col 1, lines 42-50).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 8, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beasley et al (U.S. 5,721,842) in view of Ostermann et al (U.S. 4,484,025).

1. Claims 2 and 8: Beasley et al disclose a unit and method wherein:

- a. An encoding unit executes an encoding process for each terminal on data that has been transmitted from any one terminal and received by the switching device (col 1, last paragraph; col 2, lines 1-4; and col 3, lines 36-55).
- b. A first decoding unit executes a decoding process corresponding to the encoding process for the terminal corresponding to the private computer on data that has been outputted from the switching device to any one private computer (col 1, lines 56-61 and fig 1, items 70).
- c. A second decoding unit executes a decoding process, corresponding to the encoding process for the terminal currently connected to the shared computer, on data that has been outputted from the switching device to the shared computer (col 1, lines 56-61 and fig 1, items 70).

The examiner would like to note that there are multiple decoding units disclosed by Beasley et al as seen in Figure 1, items 70 and explained in the first paragraph of column 3. Beasley et al call these decoding units "signal conditioning units."

Beasley et al do not explicit disclose that the encoded data are enciphered or deciphered, however, Ostermann et al disclose a system and method for transmitting data between a two terminals or computers wherein the data are enciphered at the transmitting end and deciphered at the receiving end (abstract). Secure data transmission between two devices (as disclosed by Ostermann et al) was and still is a concern for one of ordinary skill in the art at

the time of the applicant's invention. One of ordinary skill in the art would not only encode the transmitted data, but also encipher it for security purposes.

Once the data arrives at the destination, only the intended recipient should be able to decipher the transmitted data.

2. Claim 17: Beasley et al disclose a computer system comprising at least one private computer; a terminal corresponding to a private computer; at least one shared computer connected to a network; and a switching device disposed between the private computer and the terminal for relaying data between the terminal and a shared computer, the switching device comprising:

- a. A connecting unit that connects each terminal to a corresponding private computer in a default status and switches a connection destination of the terminal to a private computer corresponding to said terminal or the shared computer when a connection switching request transmitted from said terminal has been received (col 2, lines 56-64).
- b. A security unit that executes for each terminal an identification process on the data that has been received from any one terminal and output data to the private computer or the shared computer (col 1, lines 45-61).

Beasley et al disclose a unit wherein:

- a. An encoding unit executes an encoding process for each terminal on data that has been transmitted from any one terminal and received by the switching device (col 1, last paragraph; col 2, lines 1-4; and col 3, lines 36-55).

- b. A first decoding unit executes a decoding process corresponding to the encoding process for the terminal corresponding to the private computer on data that has been outputted from the switching device to any one private computer (col 1, lines 56-61 and fig 1, items 70).
- c. A second decoding unit executes a decoding process, corresponding to the encoding process for the terminal currently connected to the shared computer, on data that has been outputted from the switching device to the shared computer (col 1, lines 56-61 and fig 1, items 70).

The examiner would like to note that there are multiple decoding units disclosed by Beasley et al as seen in Figure 1, items 70 and explained in the first paragraph of column 3. Beasley et al call these decoding units "signal conditioning units."

Beasley et al do not explicit disclose that the encoded data are enciphered or deciphered, however, Ostermann et al disclose a system and method for transmitting data between a two terminals or computer wherein the data are enciphered at the transmitting end and deciphered at the receiving end (abstract). Secure data transmission between two devices (as disclosed by Ostermann et al) was and still is a concern for one of ordinary skill in the art at the time of the applicant's invention. One of ordinary skill would not only encode the transmitted data, but also encipher it for security purposes. Once the data arrives at the destination, only the intended recipient should be able to decipher the transmitted data.

Claims 3, 9, and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beasley et al (U.S. 5,721,842) in view of Nelson, Jr. (U.S. 5,675,653) and Ostermann et al (U.S. 4,484,025).

1. Claims 3 and 9: Beasley et al do not disclose the switching device according to claim 2 and the switching method according to claim 7, wherein:
 - a. The enciphering unit bit shifts received data to a first direction between a highest bit and a lowest bit by only a number of each terminal.
 - b. The first deciphering unit bit shifts output data to a second direction opposite to the first direction by a number of a terminal corresponding to the private computer.
 - c. The second deciphering unit bit shifts output data to a second direction opposite to the first direction by a number of a terminal currently connected to the shared computer.

However, an enciphering unit in which data is encrypted by shifting bits in a first direction is not only known by one of ordinary skill in the art at the time of the applicant's invention, it is also disclosed by Nelson, Jr. (col 2, 1st paragraph). One of ordinary skill would recognize that to decrypt the encrypted data, one would need only to shift the bits of the encrypted data in a direction opposite the direction used to encrypt the data.

The examiner has interpreted "a number of each terminal" to include an encryption key uniquely associated with each terminal. The use of encryption key is well known by one of ordinary skill at the time of the applicant's

invention and disclosed by Nelson, Jr. (col 5, lines 15-20). One of ordinary skill in the art would recognize that it would be more secure if the number of shifts done on each bit of data were determined in some manner by a terminal key or number. As the examiner interprets the claim, one possible purpose of enciphering data is so that if a computer accidentally receives data from a terminal when it was not supposed to, the computer would not be able to decode the data since it would not apply the correct number of bit shifts since the computer expected the data to come from one terminal and instead it came from another. In this manner, terminal data is secured as only when a terminal sends data to the correct computer and the computer uses the correct encryption key or number to decrypt the data from the terminal it expected the data to come from would the computer be able to correctly interpret the data.

Claim 9 differs from claim 3 in that claim 3 discloses a switching unit which utilizes the steps disclosed by the method of claim 9.

2. Claim 21: Beasley et al disclose a computer system comprising at least one private computer; a terminal corresponding to a private computer; at least one shared computer connected to a network; and a switching device disposed between the private computer and the terminal for relaying data between the terminal and a shared computer, the switching device comprising:
 - a. A connecting unit that connects each terminal to a corresponding private computer in a default status and switches a connection destination of the

terminal to a private computer corresponding to said terminal or the shared computer when a connection switching request transmitted from said terminal has been received (col 2, lines 56-64).

- b. A security unit that executes for each terminal an identification process on the data that has been received from any one terminal and output data to the private computer or the shared computer (col 1, lines 45-61).

Beasley et al disclose a unit wherein:

- a. An encoding unit executes an encoding process for each terminal on data that has been transmitted from any one terminal and received by the switching device (col 1, last paragraph; col 2, lines 1-4; and col 3, lines 36-55).
- b. A first decoding unit executes a decoding process corresponding to the encoding process for the terminal corresponding to the private computer on data that has been outputted from the switching device to any one private computer (col 1, lines 56-61 and fig 1, items 70).
- c. A second decoding unit executes a decoding process, corresponding to the encoding process for the terminal currently connected to the shared computer, on data that has been outputted from the switching device to the shared computer (col 1, lines 56-61 and fig 1, items 70).

The examiner would like to note that there are multiple decoding units disclosed by Beasley et al as seen in Figure 1, items 70 and explained in the first

paragraph of column 3. Beasley et al call these decoding units "signal conditioning units."

Beasley et al do not explicit disclose that the encoded data are enciphered or deciphered, however, Ostermann et al disclose a system and method for transmitting data between a two terminals or computer wherein the data are enciphered at the transmitting end and deciphered at the receiving end (abstract). Secure data transmission between two devices (as disclosed by Ostermann et al) was and still is a concern for one of ordinary skill in the art at the time of the applicant's invention. One of ordinary skill would not only encode the transmitted data, but also encipher it for security purposes. Once the data arrives at the destination, only the intended recipient should be able to decipher the transmitted data.

Beasley et al do not disclose the switching device, wherein:

- a. The enciphering unit bit shifts received data to a first direction between a highest bit and a lowest bit by only a number of each terminal.
- b. The first deciphering unit bit shifts output data to a second direction opposite to the first direction by a number of a terminal corresponding to the private computer.
- c. The second deciphering unit bit shifts output data to a second direction opposite to the first direction by a number of a terminal currently connected to the shared computer.

However, an enciphering unit in which data is encrypted by shifting bits in a first direction is not only known by one of ordinary skill in the art at the time of the applicant's invention, it is also disclosed by Nelson, Jr. (col 2, 1st paragraph). One of ordinary skill would recognize that to decrypt the encrypted data, one would need only to shift the bits of the encrypted data in a direction opposite the direction used to encrypt the data.

The examiner has interpreted "a number of each terminal" to include an encryption key uniquely associated with each terminal. The use of encryption key is well known by one of ordinary skill at the time of the applicant's invention and disclosed by Nelson, Jr. (col 5, lines 15-20). One of ordinary skill in the art would recognize that it would be more secure if the number of shifts done on each bit of data were determined in some manner by a terminal key or number. As the examiner interprets the claim, one possible purpose of enciphering data is so that if a computer accidentally receives data from a terminal when it was not supposed to, the computer would not be able to decode the data since it would not apply the correct number of bit shifts since the computer expected the data to come from one terminal and instead it came from another. In this manner, terminal data is secured as only when a terminal sends data to the correct computer and the computer uses the correct encryption key or number to decrypt the data from the terminal it expected the data to come from would the computer be able to correctly interpret the data.

3. Claim 22: Neither Beasley et al nor Nelson disclose a computer system according to claim 21, wherein at least one shared computer is connected to a further network independent of said network. However, the examiner would like to take official notice that computer systems and networks wherein at least one computer (shared or private) that is connected to a further network independent of said network have existed before the time of the applicant's invention. One of ordinary skill in the art would be motivated to connect a shared computer to a further independent network as this would allow more access of information for the users of the system disclosed by Beasley et al.
4. Claim 23: Neither Beasley et al nor Nelson discloses a computer system according to claim 21, wherein the network is the Internet. However, the examiner would like to take official notice that a network being the Internet, which is connected to a computer of any sort has been known to exist before the time of the applicant's invention. One of ordinary skill in the art would be motivated to connect a shared computer to a further independent network as this would allow more access of information for the users of the system disclosed by Beasley et al.
5. Claim 24: Neither Beasley et al nor Nelson discloses the computer system according to claim 22, wherein the further network is an intranet. However, the examiner would like to take official notice that a further network being an intranet has existed before the time of the applicant's invention. One of ordinary skill in the art would be motivated to connect a shared computer to a further

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independent network as this would allow more access of information for the users of the system disclosed by Beasley et al. Some of the information may be obtained only by being connected to the intranet.

Claims 4, 10, and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilder et al (U.S. 6,557,170).

1. Claims 4 and 10: Wilder et al disclose the switching device according to claim 1 and the switching method according to claim 7, wherein the connection unit comprises:
 - a. A detecting unit that detects whether or not a key code of a predetermined key transmitted from any terminal has been received by a predetermined number during a predetermined period of time (col 2, lines 19-49 and col 6, lines 28-35).
 - b. A switching unit which:
 - i. Cancels a connection of the terminal when the terminal has been connected to the shared computer and switches the connection to a private computer corresponding to the terminal (col 2, lines 19-49 and col 6, lines 28-35).
 - ii. Cancels a connection of the terminal when the terminal has been connected to a private computer corresponding to the terminal and switches the connection to the shared computer (col 2, lines 19-49 and col 6, lines 28-35).

Wilder et al do not disclose the switching unit disregarding a connection switching request when a terminal other than the corresponding terminal has already been connected to the shared computer at a time when the detecting unit has detected whether or not a key code of a predetermined key transmitted from any terminal has been received by a predetermined number during a predetermined period of time. However, the examiner would like to take official notice that it is well known to disregard a request to connect to a device when the device is busy already. As in the case of telephone communication, for example, when a person A is talking to person B and person C tries to call A, the communication system would not disconnect B so that C may connect to A. Instead, the telephone communication system would ignore C's request and C would most likely get a busy signal.

Likewise, if a shared computer is already busy connected to one terminal and another terminal tries to connect, one of ordinary skill in the art would most likely design a switching unit in which the unit would disregard the connection switching request if another terminal is already connected to the shared computer as the other terminal was connected first and it would be unfair to disconnect the first terminal in the middle of what ever work is being done.

Claim 4 discloses a switching unit which utilizes the methods and steps disclosed by claim 10.

1. Claim 25: Wilder et al disclose a computer system comprising at least one private computer; a terminal corresponding to a private computer; at least one

shared computer connected to a network; and a switching device disposed between the private computer and the terminal for relaying data between the terminal and a shared computer, the switching device comprising:

- a. A connecting unit that connects each terminal to a corresponding private computer in a default status and switches a connection destination of the terminal to a private computer corresponding to said terminal or the shared computer when a connection switching request transmitted from said terminal has been received (col 1, lines 21-45 and col 7, lines 33-47).

The connecting unit comprising:

- i. A detecting unit that detects whether or not a key code of a predetermined key transmitted from any terminal has been received by a predetermined number during a predetermined period of time (col 2, lines 19-49 and col 6, lines 28-35).
- ii. A switching unit which:
 1. Cancels a connection of the terminal when the terminal has been connected to the shared computer and switches the connection to a private computer corresponding to the terminal (col 2, lines 19-49 and col 6, lines 28-35).
 2. Cancels a connection of the terminal when the terminal has been connected to a private computer corresponding to the terminal and switches the connection to the shared computer (col 2, lines 19-49 and col 6, lines 28-35).

- b. A security unit that executes for each terminal an identification process on data that has been received from any on terminal and outputs to the private computer or the shared computer (col 1, lines 42-50).

Wilder et al do not disclose the switching unit disregarding a connection switching request when a terminal other than the corresponding terminal has already been connected to the shared computer at a time when the detecting unit has detected whether or not a key code of a predetermined key transmitted from any terminal has been received by a predetermined number during a predetermined period of time. However, the examiner would like to take official notice that it is well known to disregard a request to connect to a device when the device is busy already. As in the case of telephone communication, for example, when a person A is talking to person B and person C tries to call A, the communication system would not disconnect B so that C may connect to A. Instead, the telephone communication system would ignore C's request and C would most likely get a busy signal. Likewise, if a shared computer is already busy connected to one terminal and another terminal tries to connect, one of ordinary skill in the art would most likely design a switching unit in which the unit would disregard the connection switching request if another terminal is already connected to the shared computer as the other terminal was connected first and it would be unfair to disconnect the first terminal in the middle of what ever work is being done.

2. Claim 26: Wilder et al do not disclose a computer system according to 25, wherein at least one shared computer is connected to a further network independent of said network. However, the examiner would like to take official notice that computer systems and networks wherein at least one computer (shared or private) that is connected to a further network independent of said network have existed before the time of the applicant's invention. One of ordinary skill in the art would be motivated to connect a shared computer to a further independent network as this would allow more access of information for the users of the system disclosed by Wilder et al.
3. Claim 27: Wilder et al do not disclose a computer system according to claim 25 respectively, wherein the network is the Internet. However, the examiner would like to take official notice that a network being the Internet, which is connected to a computer of any sort has been known to exist before the time of the applicant's invention. One of ordinary skill in the art would be motivated to connect a shared computer to a further independent network as this would allow more access of information for the users of the system disclosed by Wilder.
4. Claim 28: Wilder et al do not disclose the computer system according to claim 26, wherein the further network is an intranet. However, the examiner would like to take official notice that a further network being an intranet has existed before the time of the applicant's invention. One of ordinary skill in the art would be motivated to connect a shared computer to a further independent network as this would allow more access of information for the users of the system disclosed by

Wilder et al. Some of the information may be obtained only by being connected to the intranet.

Claims 5-6, 11-12, and 29-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beasley et al (U.S. 5,721,842) in view of Onsen (U.S. 6,473,811).

1. Claims 5 and 11: Beasley et al do not disclose a switching device according to claim 1 nor a switching method according to claim 7, further comprising a posting unit that posts a connection status of the shared computer to each terminal. However, Onsen discloses a posting unit which displays connection status of devices (col 1, lines 29-39). One of ordinary skill in the art at the time of the applicant's invention would be motivated to incorporate a posting unit which displays connection status into a switching device as that would allow users to see which computers are already busy/connected to another terminal and thereby know to not waste time trying to connect to the busy computers.

Claim 5 discloses a switching unit which utilizes the methods and steps disclosed by claim 11.

2. Claim 6 and 12: Beasley et al do not disclose a switching device according to claim 5 nor the switching method according to claim 11, wherein:
 - a. The posting unit posts to each terminal that the shared computer is currently being used when the shared computer is currently being connected to any terminal.

However, as mentioned already Onsen discloses a posting unit which displays connection status of devices (col 1, lines 29-39). Motivation for

incorporating such a posting unit into a switching device has also been mentioned. Claim 12 discloses the methods and steps utilized by the device in claim 6.

3. Claim 29: Beasley et al disclose a computer system comprising at least one private computer; a terminal corresponding to a private computer; at least one shared computer connected to a network; and a switching device disposed between the private computer and the terminal for relaying data between the terminal and a shared computer, the switching device comprising:
 - a. A connecting unit that connects each terminal to a corresponding private computer in a default status and switches a connection destination of the terminal to a private computer corresponding to said terminal or the shared computer when a connection switching request transmitted from said terminal has been received (col 2, lines 56-64).
 - b. A security unit that executes for each terminal an identification process on data that has been received from any on terminal and outputs to the private computer or the shared computer (col 1, lines 45-61).

Beasley et al do not disclose a posting unit that posts a connection status of the shared computer to each terminal. However, Onsen discloses a posting unit which displays connection status of devices (col 1, lines 29-39). One of ordinary skill in the art at the time of the applicant's invention would be motivated to incorporate a posting unit which displays connection status into a switching device as that would allow users to see which computers are

already busy/connected to another terminal and thereby know to not waste time trying to connect to the busy computers.

4. Claim 33: Beasley et al disclose a computer system comprising at least one private computer; a terminal corresponding to a private computer; at least one shared computer connected to a network; and a switching device disposed between the private computer and the terminal for relaying data between the terminal and a shared computer, the switching device comprising:
 - a. A connecting unit that connects each terminal to a corresponding private computer in a default status and switches a connection destination of the terminal to a private computer corresponding to said terminal or the shared computer when a connection switching request transmitted from said terminal has been received (col 2, lines 56-64).
 - b. A security unit that executes for each terminal an identification process on data that has been received from any on terminal and outputs to the private computer or the shared computer (col 1, lines 45-61).

Beasley et al do not disclose a posting unit that posts a connection status of the shared computer to each terminal; the posting unit posts to each terminal that the shared computer is currently being used when the shared computer is currently being connected to any terminal. However, Onsen discloses a posting unit which displays connection status of devices (col 1, lines 29-39). One of ordinary skill in the art at the time of the applicant's invention would be motivated to incorporate a posting unit which displays

connection status into a switching device as that would allow users to see which computers are already busy/connected to another terminal and thereby know to not waste time trying to connect to the busy computers.

5. Claims 30 and 34: Neither Beasley et al do nor Onsen disclose a computer system according to claim 29 and claim 33 respectively, wherein at least one shared computer is connected to a further network independent of said network. However, the examiner would like to take official notice that computer systems and networks wherein at least one computer (shared or private) that is connected to a further network independent of said network have existed before the time of the applicant's invention. One of ordinary skill in the art would be motivated to connect a shared computer to a further independent network as this would allow more access of information for the users of the system disclosed by Beasley et al.
6. Claims 31 and 35: Neither Beasley et al nor Onsen discloses a computer system according to claim 29 and claim 33 respectively, wherein the network is the Internet. However, the examiner would like to take official notice that a network being the Internet, which is connected to a computer of any sort has been known to exist before the time of the applicant's invention. One of ordinary skill in the art would be motivated to connect a shared computer to a further independent network as this would allow more access of information for the users of the system disclosed by Beasley et al.

7. Claims 32 and 36: Neither Beasley et al do nor Onsen disclose the computer system according to claim 14 and claim 18 respectively, wherein the further network is an intranet. However, the examiner would like to take official notice that a further network being an intranet has existed before the time of the applicant's invention. One of ordinary skill in the art would be motivated to connect a shared computer to a further independent network as this would allow more access of information for the users of the system disclosed by Beasley et al. Some of the information may be obtained only by being connected to the intranet.

Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beasley et al (U.S. 5,721,842) and claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beasley et al (U.S. 5,721,842) in view of Nelson, Jr. (U.S. 5,675,653) and Ostermann et al (U.S. 4,484,025).

1. Claims 14 and 18: Beasley et al do not disclose a computer system according to claim 13 and claim 17 respectively, wherein at least one shared computer is connected to a further network independent of said network. However, the examiner would like to take official notice that computer systems and networks wherein at least one computer (shared or private) that is connected to a further network independent of said network have existed before the time of the applicant's invention. One of ordinary skill in the art would be motivated to connect a shared computer to a further independent

network as this would allow more access of information for the users of the system disclosed by Beasley et al.

2. Claims 15 and 19: Beasley et al do not disclose a computer system according to claim 13 and claim 17 respectively, wherein the network is the Internet. However, the examiner would like to take official notice that a network being the Internet, which is connected to a computer of any sort has been known to exist before the time of the applicant's invention. One of ordinary skill in the art would be motivated to connect a shared computer to a further independent network as this would allow more access of information for the users of the system disclosed by Beasley et al.
3. Claims 16 and 20: Beasley et al do not disclose the computer system according to claim 14 and claim 18 respectively, wherein the further network is an intranet. However, the examiner would like to take official notice that a further network being an intranet has existed before the time of the applicant's invention. One of ordinary skill in the art would be motivated to connect a shared computer to a further independent network as this would allow more access of information for the users of the system disclosed by Beasley et al. Some of the information may be obtained only by being connected to the intranet.

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Thomas et al (U.S. 6,256,014) disclose a mouse ranking system for a keyboard-video-mouse (KVM) network.
2. Thomas et al (U.S. 6,671,756) disclose a KVM device used to connect two terminals to eight computers.
3. Stone et al (U.S. 2002/0129098) disclose LED on a network device being used to display network devices' status.
4. Ahern et al (U.S. 6,388,658) disclose multiple computers, terminals, and networked computers connected via a KVM switch.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ponnoreay Pich whose telephone number is 571-272-7962. The examiner can normally be reached on 8:00am-4:30pm Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 571-272-3859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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